



Greater Boston Chamber of Commerce Transportation Policy Agenda

Congestion

Economic and population surges in the state are stressing the system

Infrastructure Condition

Historical underinvestment in some areas has resulted in poor conditions

Future-Ready System

Need to adapt to pressures and changes in climate, economy, and technology

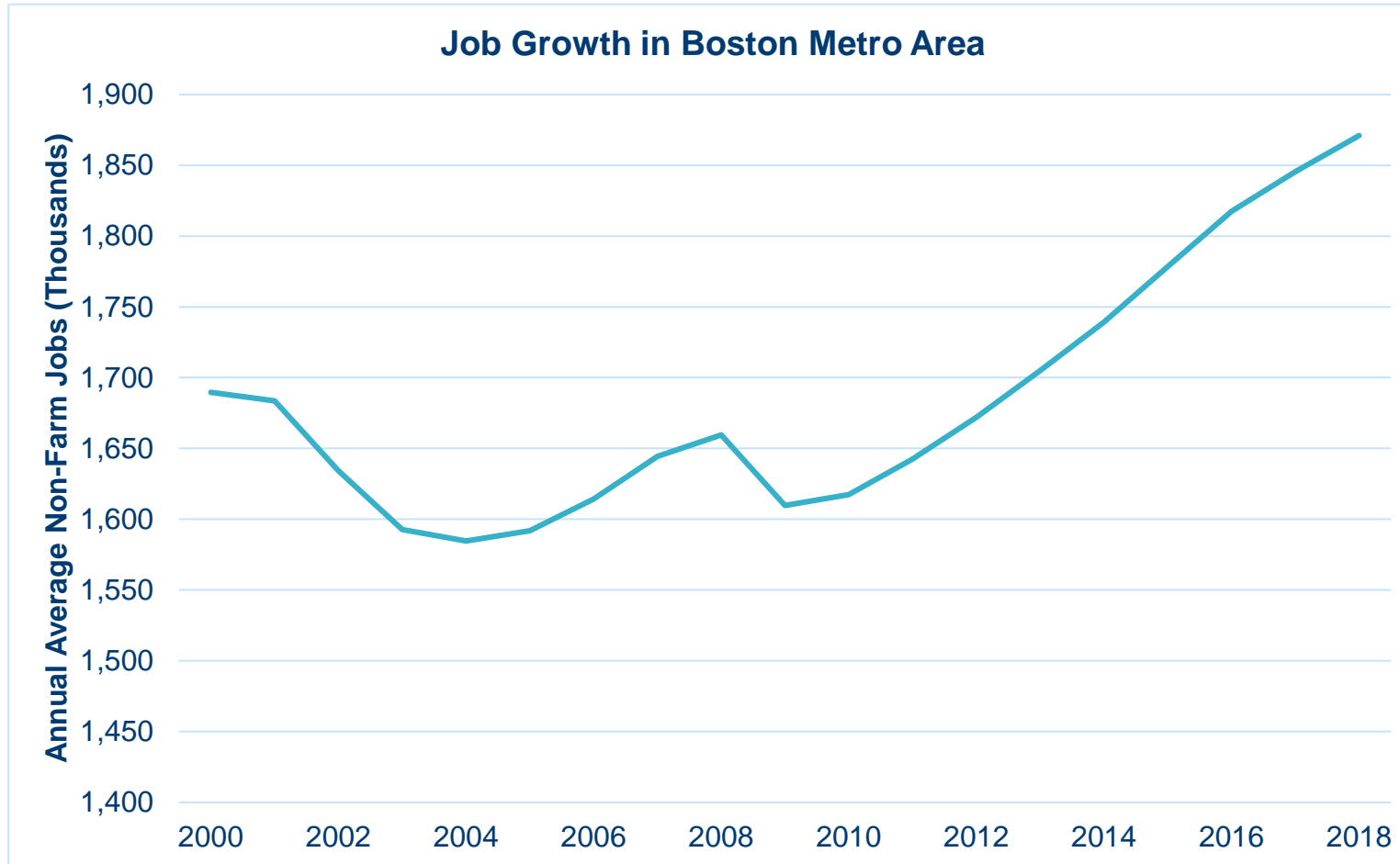
Long-Term Gaps

Financial projections show capital and operating gaps in the future, even without additional investments

Congestion

Economic and population surges in the state are stressing the system

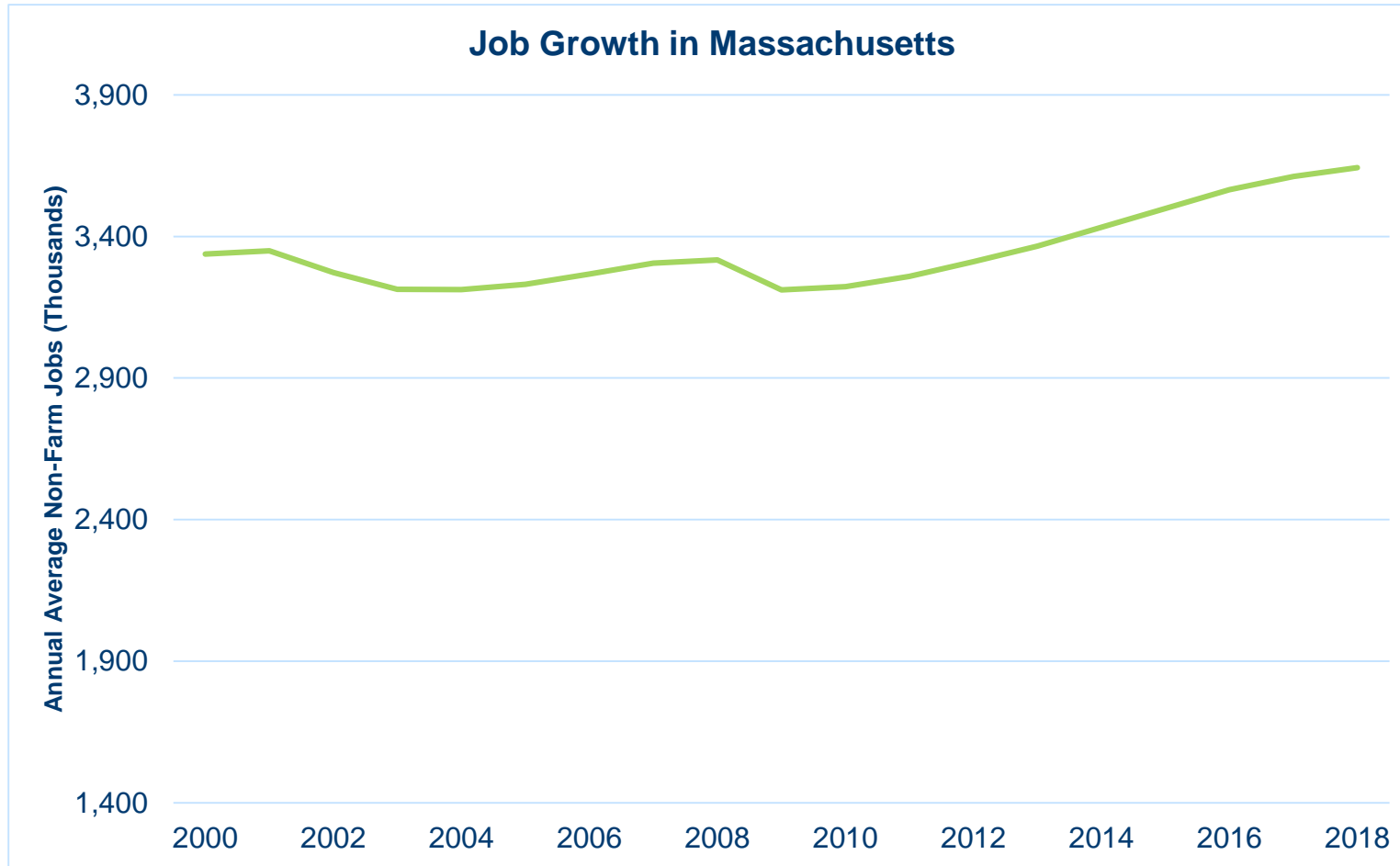
Economic & Population Surge = Congestion



“[I]t takes drivers longer to travel during the morning peak period than it did five years ago along nearly every roadway segment along the major corridors coming into Greater Boston.”

*Congestion in the Commonwealth,
Report to the Governor, 2019,
MassDOT*

Economic & Population Surge = Congestion

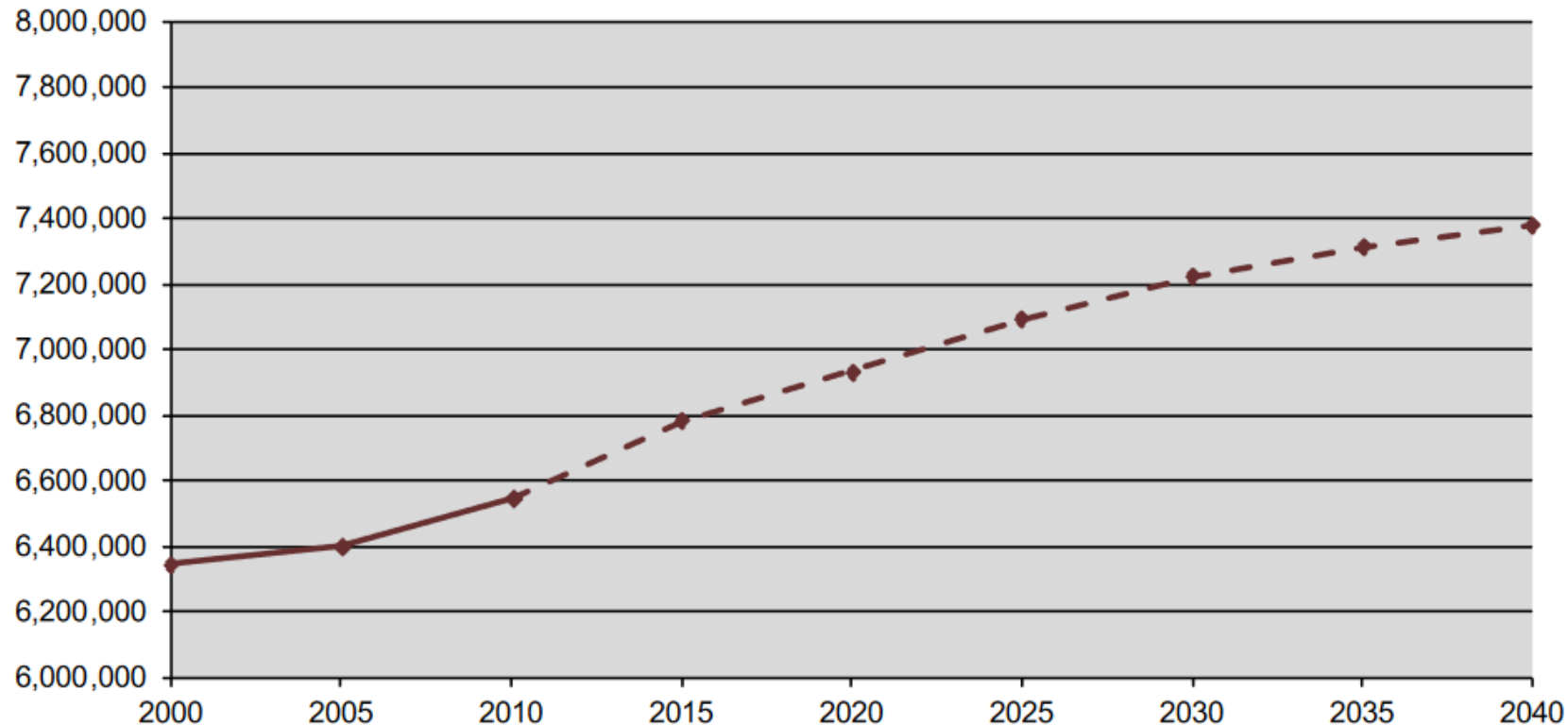


“But travel times have grown in low-density places outside of the Boston region as well...**increased roadway volumes are slowing drivers down all over the state.**”

Congestion in the Commonwealth, Report to the Governor, 2019, MassDOT

Economic & Population Surge = Congestion

Massachusetts Actual and Projected Population, 2000-2040



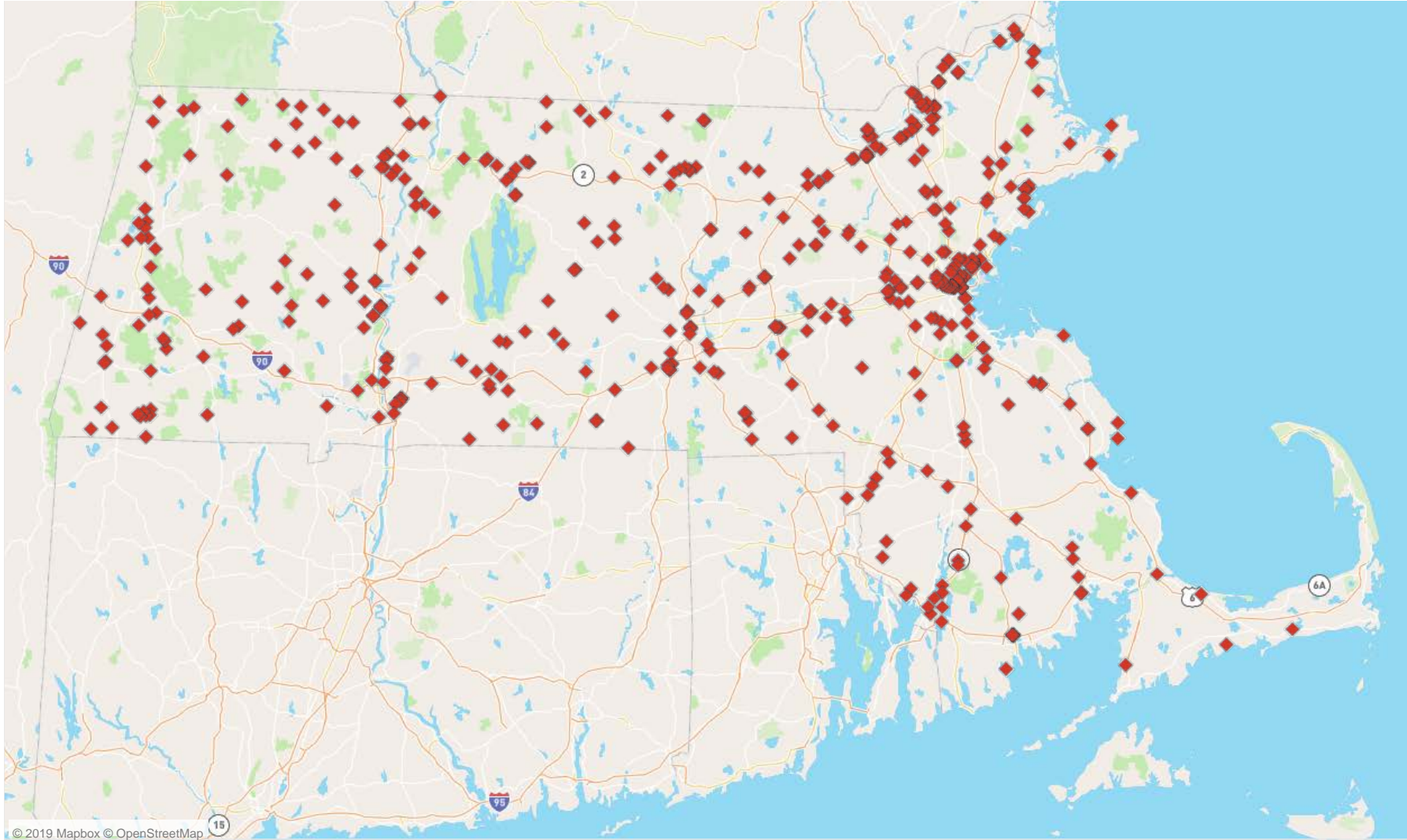
“After decades of little or no growth, the Commonwealth is projected to have significantly more people, homes, and jobs by 2040: **approximately 600,000 new residents between now and 2040.**”

Commission on the Future of Transportation in the Commonwealth, 2018

Infrastructure Condition

Historical underinvestment in some areas
has resulted in poor conditions

Structurally Deficient Bridges



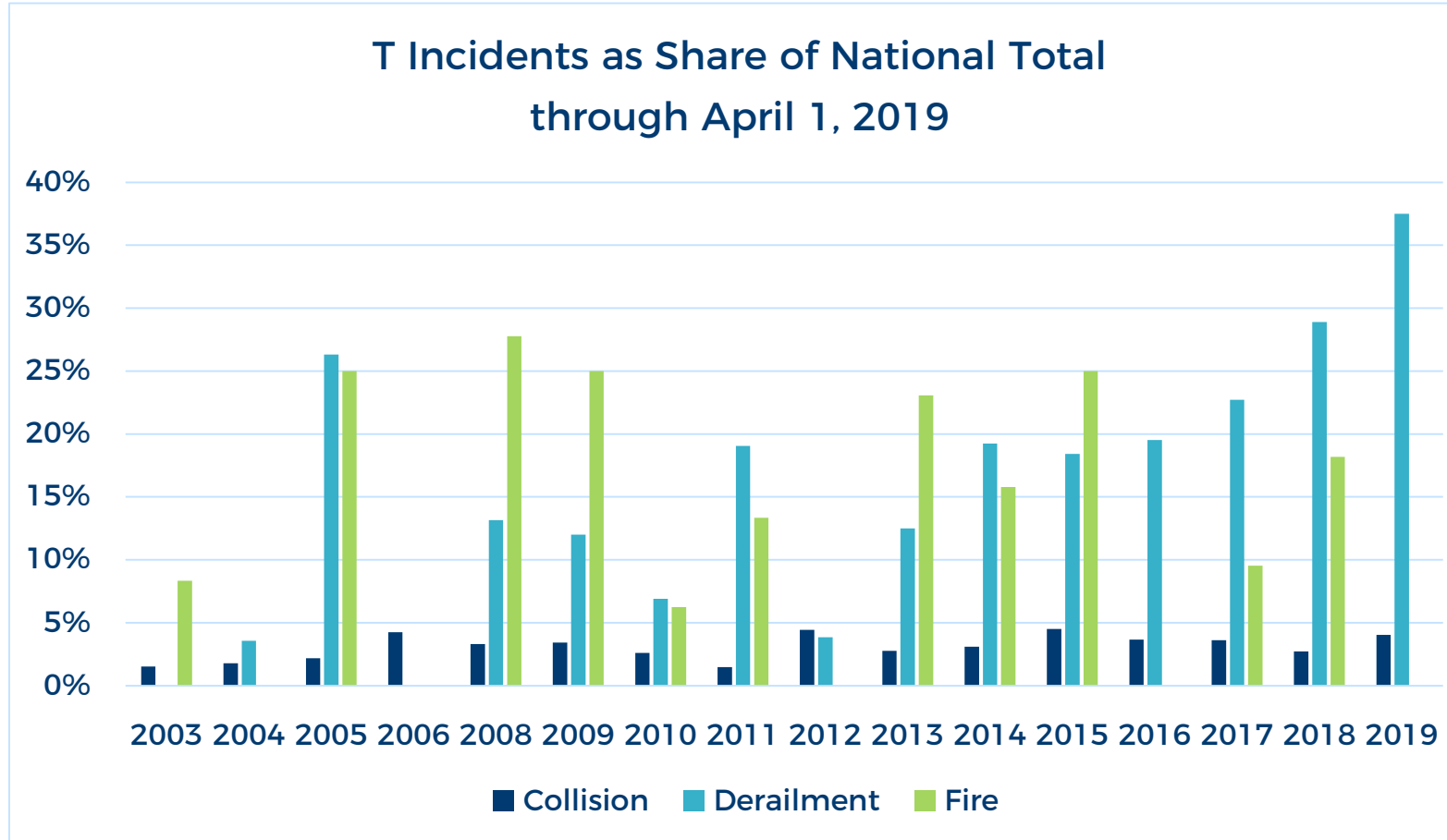
Source: Federal Highway Administration, National Bridge Inventory, 2018

Structurally Deficient Bridges

State	% of Bridge Roadway Rated Poor
Rhode Island	23.9%
West Virginia	14.0%
Connecticut	11.9%
Massachusetts	11.8%
Illinois	11.1%
New York	10.1%
Iowa	10.1%
Michigan	9.3%
North Carolina	9.1%
Wyoming	9.1%

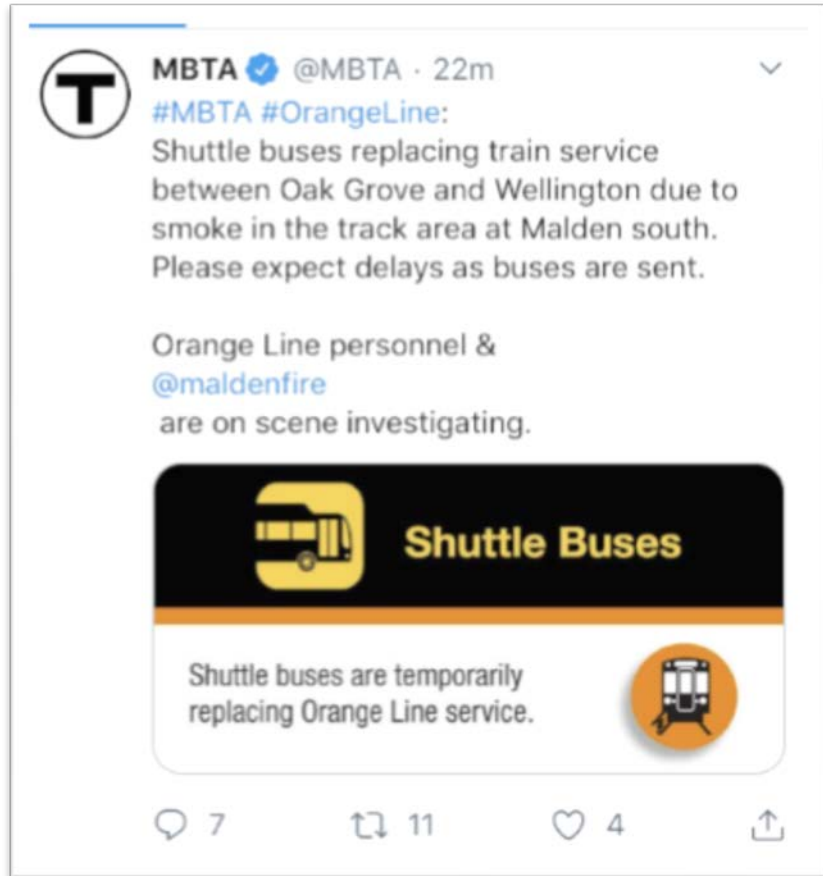
Nearly 500 bridges in MA, totaling almost 12% of bridge roadways, are rated poor. This is the **4th worst in the country.**

MBTA Incidents



The MBTA experiences a **disproportionate share of derailments** compared to other transit systems nationally.

Equipment/Mechanical Delays, September





MBTA Commuter Rail @MBT... · Sep 11
Providence Train 804 (6:00 am from South Station) is now operating 10-15 minutes behind schedule between South Station and South Station due to a mechanical issue.

MBTA @MBTA · Sep 12
Orange Line trains entering/departing Oak Grove experiencing delays of up to 10 minutes because of a signal problem. Some northbound trains may stand at or between stations.

MBTA Commuter Rail @MBTA_CR · Sep 11
Providence Train 800 (5:00 am from Providence) is operating 5-15 minutes behind schedule between Providence and South Station due to a mechanical issue.

MBTA @MBTA · Sep 7
Orange Line B Branch: Delays of up to 15 minutes due to a disabled train with a door operating issue.

MBTA Commuter Rail @MBT... · Sep 11
Fairmount Train 1008 (12:43 pm from South Station) is now operating 10-15 minutes behind schedule between South Station and South Station due to a mechanical issue.

MBTA @MBTA · Sep 12
#MBTA #BlueLine: Delays of up to 10 minutes due to a signal problem near Beachmont on the westbound.

MBTA @MBTA · Sep 11
Westbound Green Line D trains delayed 15 minutes as we remove a train from service with its brakes holding at Hynes.

MBTA @MBTA · Sep 11
Orange Line: Delays of up to 10 minutes due to a disabled train with a door operating issue near Tufts Medical Center.

MBTA Commuter Rail @MBT... · Sep 10
Update: Middleborough Train 023 (5:57 pm from South Station) is now operating 10-15 minutes behind schedule between South Station and Middleborough due to a mechanical issue.

MBTA @MBTA · Sep 9
Orange Line trains skip Sullivan Square because of insufficient lighting caused by a power problem.

MBTA @MBTA · Sep 10
Northbound Red Line trains may experience a gap in service because of a train with a mechanical problem at South Station.

MBTA @MBTA · Sep 10
Update: South Station system issue at South Station affecting our digital display. Passengers traveling to and from South Station please listen carefully to announcements throughout the day.

MBTA @MBTA · Sep 10
Update: Fairmount Train 1008 (12:43 pm from South Station) is now operating 10-15 minutes behind schedule between South Station and South Station due to a crossing gate issue near South Station.

MBTA @MBTA · Sep 10
#MBTA #GreenLine B Branch experiencing delays of up to 10 minutes due to a train with a door operating issue at Blandford.

MBTA @MBTA · Sep 2
#OrangeLine: Delays of up to 10 minutes due to a disabled train at Mass Ave.

MBTA @MBTA · Sep 10
Blue Line experiencing delays of up to 20 minutes due to disabled train at Maverick westbound.

MBTA Commuter Rail @MBT... · Sep 4
Worcester Train 514 (10:35 am from Worcester) is operating 5-15 minutes behind schedule between South Station and South Station due to a signal issue.

MBTA Commuter Rail @MBTA_CR · Sep 13
Rockport Train 104 (6:30 am from Rockport) has not yet departed Rockport and is currently 15-25 minutes behind schedule due to a mechanical issue.

MBTA @MBTA · Sep 12
#MBTA #RedLine - Braintree Branch: Delays of up to 10 minutes due to a train with a mechanical problem. The train will be taken out of service at JFK/UMass.

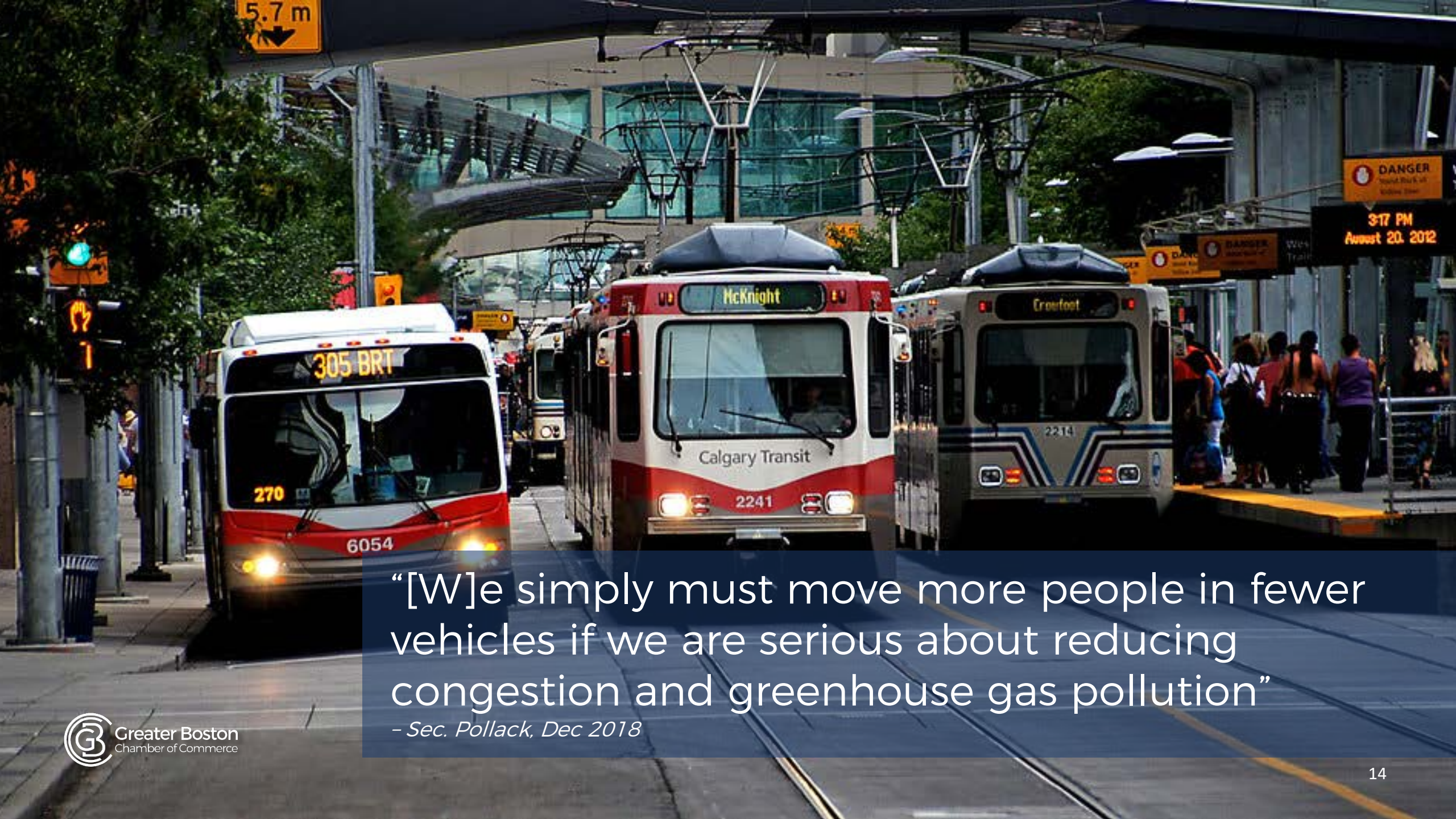
MBTA @MBTA · Sep 10
Orange Line trains delayed 15 minutes because of a train at North Station with an air problem. Some trains standing at stations.

MBTA @MBTA · Sep 11
Northbound Red Line trains delayed up to 15 minutes because of a train with a door problem at Harvard.

MBTA @MBTA · Sep 10
Update: South Station system issue at South Station affecting our digital display. Passengers traveling to and from South Station please listen carefully to announcements throughout the day.

Future-Ready System

Need to adapt to pressures and changes
in climate, economy, and technology



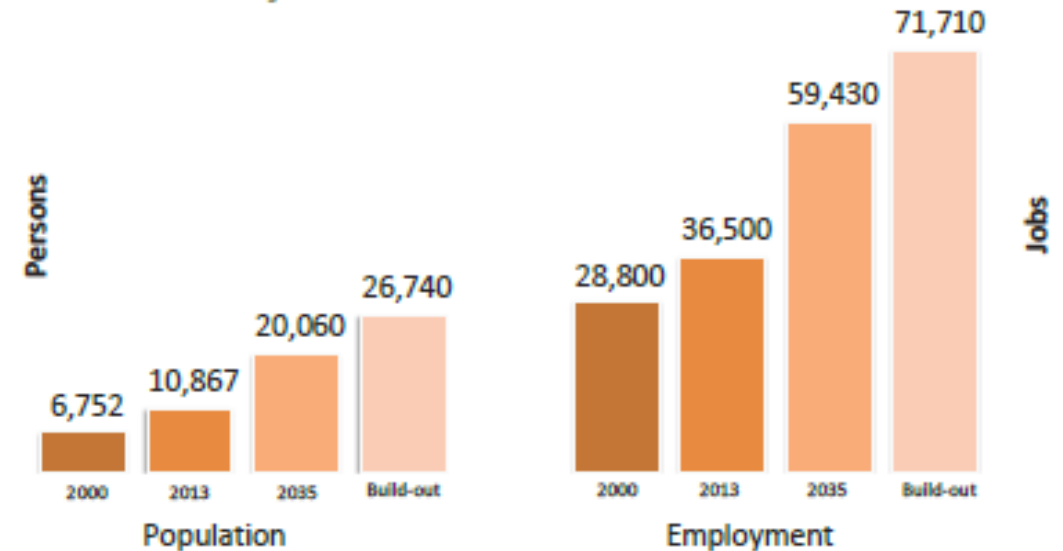
“[W]e simply must move more people in fewer vehicles if we are serious about reducing congestion and greenhouse gas pollution”

– Sec. Pollack, Dec 2018

Future Ready System

- Climate
 - Transportation accounts for largest share of emissions
- Economy and commerce
 - Existing and future job and activity centers
 - Shift to e-commerce = more delivery traffic
- Technology
 - 80 million TNC rides in MA in 2018
 - Mobility as a service

Exhibit ES-2: Projected Growth – South Boston Waterfront



Population and employment will more than double by Build-out.

Source: South Boston Waterfront Sustainable Transportation Plan, Jan 2015

Future Ready System Needs

- **Climate Resiliency**

- The current CIP is limited to planning for climate resilient infrastructure; it does not adapt existing or fund specific climate resiliency initiatives.

- **Decarbonization/electrification**

- Meeting the state's carbon emission goals in the Global Warming Solutions Act will require widespread adoption of carbon-neutral vehicles for the MBTA and MassDOT. Electrification of the commuter rail may also be required to meet the emission goals.

- **Municipal Roadways**

- Bond bill authorizes (but does not commit) \$100 million over 10 years for additional municipal roadway funding.

- **Regional Rail**

- The Commuter Rail Vision project is charged with making recommendations to reinvent the MBTA commuter rail system.

- **Additional Rail Expansion**

- The capital plan does not include funding for construction and, in many cases, design of additional rail expansion projects that have been proposed. This includes the South Station Expansion, Red-Blue connector, additional extensions of the Green Line, and a potential east-west rail connection with Springfield and Boston.

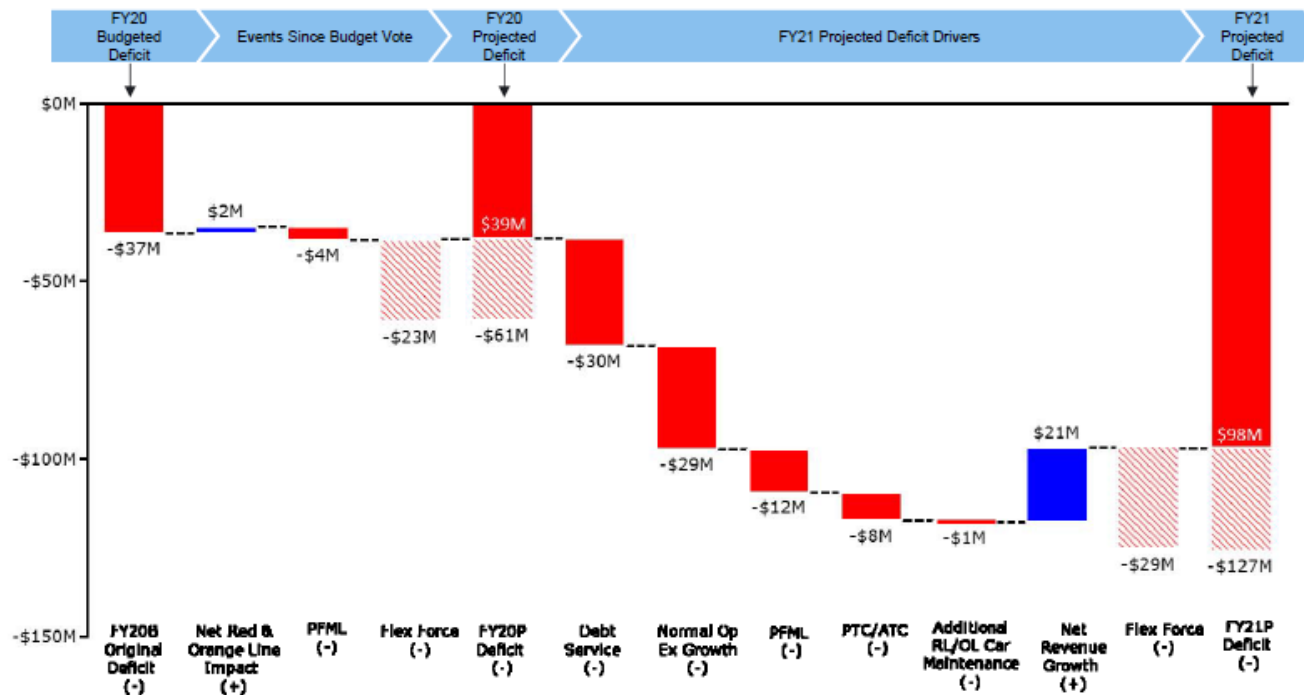
Long-Term Gaps

Financial projections show capital and operating gaps in the future, even without additional investments

MBTA Operating Gap in 2020 and 2021

FY19 Operating Budget Summary

Budget Drivers: FY20-21



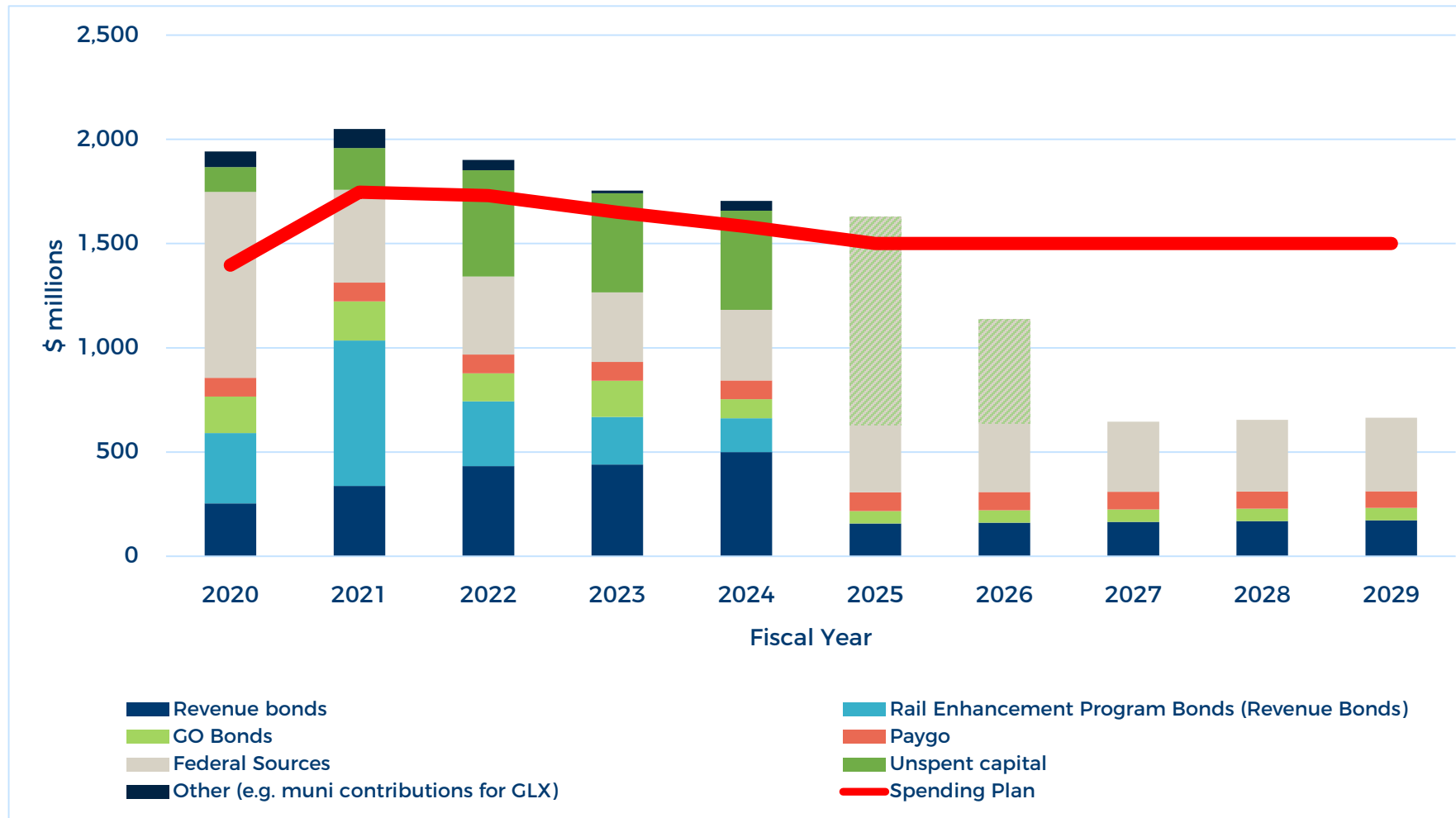
The MBTA projects operating deficits of \$39 million and \$98 million for FYs 2020 and 2021.*

Draft for Discussion and Policy Purposes Only

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*Due to rounding, numbers presented throughout this slide may not add up precisely to the totals provided

MBTA Capital Gap by 2025



Operating deficits and other factors will affect **capital spending capacity.**

MassHighway Funding Gap (2019-2028)

	Need	Gap
State-owned bridges	\$6.5 billion	\$2.9 billion
Non-interstate Pavement	\$2.25 billion	\$1.2 billion
Tunnels	\$1.43 billion	\$0.4 billion
Operations, Maintenance & Debt Service	-	\$2.0 billion (\$0.5-3.9 billion)*
Total		\$6.5 billion

Unfunded Major Projects

Congestion	Infrastructure Condition	Future Ready System
I-495 – I-90 Interchange \$300-\$400 million	Cape Cod Bridge Projects \$1 billion	North-South Rail Link \$8-18 billion
South Station Expansion \$1.4 billion	Identified Bridge Repair Gap \$2.9 billion	Rail Vision Recommendations \$3-33 billion
I-90 Allston Multi-Modal \$1.1 billion	Pavement Repair Backlog \$1.4 billion (2014)	Electrified Bus System \$1 billion Infrastructure \$2 billion on Buses
West Station \$95 million	I-91 Reconstruction ?	Red-Blue Connector \$200-350 million

**What are the impacts
and risks of leaving these
unaddressed?**



**“...congestion is now reducing
access to jobs in Greater Boston,
particularly within I-495...”**

Congestion in the Commonwealth, Report to the Governor



“Weather not only wears on
infrastructure, but **infrastructure has
physical reactions to extreme
weather conditions.**”

Commission on the Future of Transportation in the Commonwealth



“At the rate of bridge investment proposed by the 19-23 CIP, MassDOT does not expect to achieve the 10% condition threshold within the next five years.”

2018 Performance and Asset Management Advisory Council Annual Report



The state's competitiveness is at risk as **25 other states have increased their investments in transportation infrastructure since 2014.**

“[A]n aging and crumbling transportation system is not only slowing Americans down, it’s reducing productivity, undermining our ability to move products across the country and around the world, and increasing congestion and air pollution.”

U.S Chamber of Commerce

What can be done?

Ramp Up Capacity & Workforce Planning

Implement short- and long-term plans to get projects out the door successfully

Oversight

Ensure the state can meet its goals

Leverage Technology & Employers

Additional tools to address challenges

Future-Ready Revenues

Link pricing and behavior and prepare for changes driven by technology and innovation

Link Revenue to Investments

Allocate revenues to priority areas

Ramp Up Capacity & Workforce Planning

Project Delivery in the Bond Bill



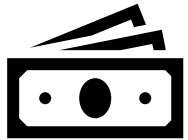
Public Private Partnerships (P3s)

Agreements with private entities to construct assets that the agency(ies) manage

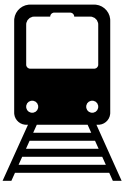


Procurement

Can use a cost-plus-time procurement method for projects

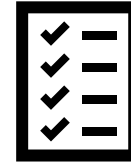


Public bidding threshold increase to \$100k



Personnel

New positions and job descriptions



Contracting

Flexibility in contracting, including “best value” options instead of requiring low-cost awards



Bulk job orders to perform maintenance and other tasks



Allow a single contractor for the full process or any combination of: engineering, designing, building, financing operation, and maintenance of infrastructure, technology, and services

Workforce Planning

- Supplement project delivery capacity
 - Broader use of Owner's Project Managers (OPMs)
- Determine obstacles to building internal capacity
 - Once pinpointed, determine whether MassDOT/MBTA has ability to make needed changes
- Implement the changes or determine split between internal/external execution

Oversight

MBTA Governance

- Retain aspects of the FMCB that added the most value, including dedicated board, regular public reporting, and external strategic guidance for the T
- Staggered terms to provide consistency across GMs and administrations
- Strong General Manager system

Monitoring Results

- Annual public transportation oversight hearing by Legislature
- Taxpayer board to ensure spending is executed as designed in legislation (Los Angeles Model)

Leverage Technology & Employers

Transportation Technology Transformation Initiative (T3I)

- Create an accelerator specifically for using technology to solve transportation problems
 - Modeled after Transit Tech Lab, a public-private partnership and accelerator in NYC
- Recommended by the Commission on the Future of Transportation
 - “...leverage private resources to solve some of Massachusetts’ intractable transportation problems by fostering collaboration through targeted public investments.”

Employer Mobility Programs

- Transportation Management Associations
- Commute
 - Telework programs; flexible hours or shifts
 - Coordinate car/vanpools; provide carpools with preferential parking
- Cost
 - Pre-tax transit benefits
 - Charge parking fees
- Rideshare
 - Create corporate rideshare/carshare accounts
 - Existing State Rideshare Program
- Employer Mobility Challenge

Future-Ready Revenues

From Concept to Cutting Edge

- Create a plan for a robust, high-tech, statewide electronic system that is flexible and can adapt to tolls, demand pricing, congestion pricing, and more
- Use a one-year formal process to create a comprehensive plan including:
 - Where to place gantries
 - How to price
 - What can be done within limits for federal highway tolling

21st Century Roadway Pricing Task Force

- Identify physical, technological, and legal requirements for statewide tolling
- Create tolling scenarios that include:
 - Annual revenue estimates
 - Options within limits for federal highway tolling
 - Cost to administer/net revenue ratio estimate
 - Cost to implement
 - Geographic and economic equity impacts
 - Long-term considerations
 - Effect on region's affordability and emissions

21st Century Roadway Pricing Task Force

- Limited to 1 year, with a set deadline for recommendations (e.g. Dec 1, 2020)
- Private citizen co-chairs appointed by Speaker and Senate President
- Members may include:
 - elected officials; Sec. of Transportation; business/employer representatives; subject matter experts (engineer, planner, environmental, financial, cybersecurity, etc.)
- Consider outside consultant to manage project

Gas Tax

Challenge Addressed	Congestion; Future-Ready
Behavior Influence	May discourage driving or encourage carpooling, both of which can decrease congestion and reduce emissions that drive climate change
Estimated Revenue	\$30 million per 1¢ increase
Long-Term Revenue Considerations	Improving fuel economy/MPGs; effect of shift to electric vehicles
Impact on Users	Equity concerns – geographical because it is tied to distance and social because it is regressive
Implementation Difficulty	Easily implemented with a high net revenue (i.e. low administrative costs to the state)
Other Notes	Gas tax revenues are dedicated to transportation Federal gas tax debate

Transportation & Climate Initiative (TCI)

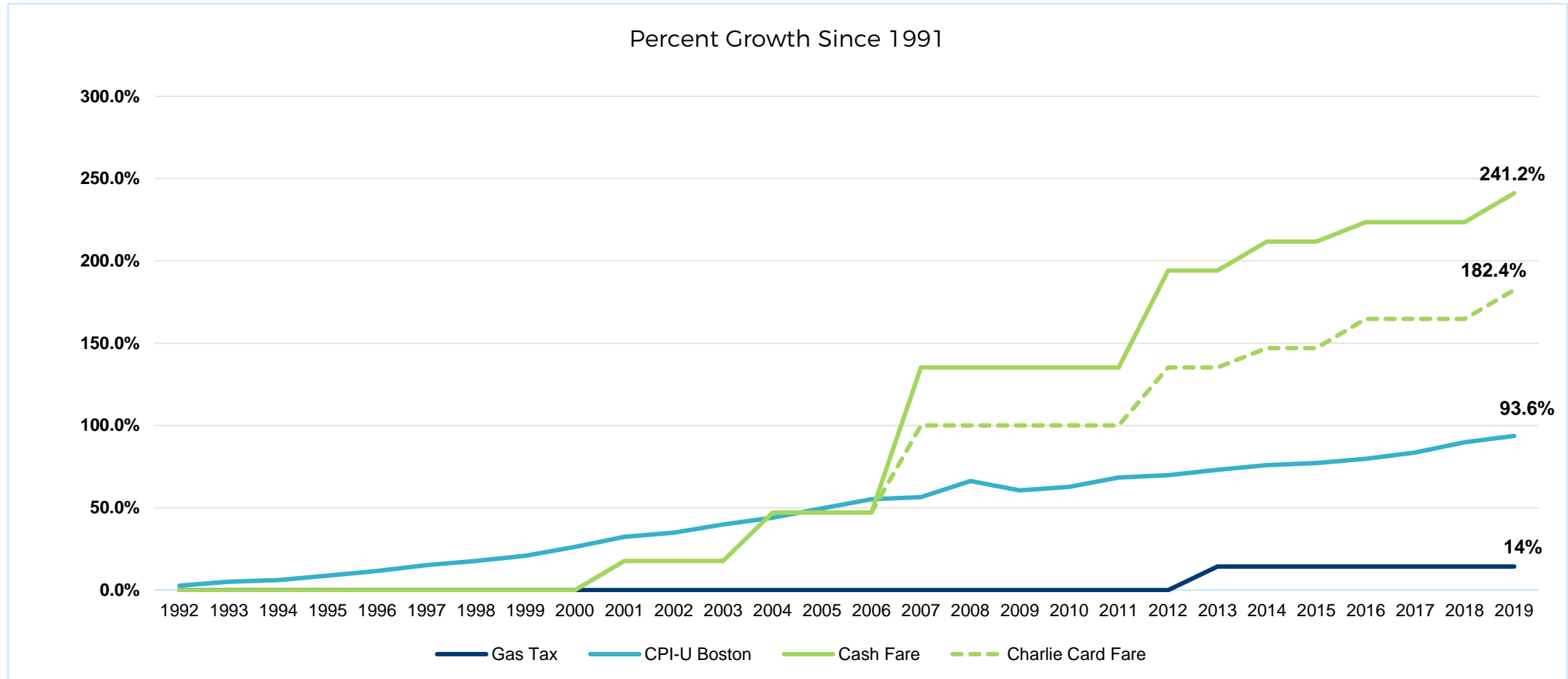
Challenge Addressed	Congestion; Future-Ready
Behavior Influence	May discourage driving or encourage carpooling, both of which can decrease congestion and reduce emissions that drive climate change
Estimated Revenue	Total ranges from \$150 million to \$450 million based on a 5¢ to 15¢ gas tax increase Bond bill authorizes up to ½ for transportation, so \$75 million to \$225 million
Long-Term Revenue Considerations	Improving fuel economy/MPGs; effect of shift to electric vehicles; agreement with multi-state consortium
Impact on Users	Framework suggests it will be a gas tax in effect (levied on “fossil component of finished motor gasoline and on-road diesel fuel”) Equity concerns that are the same as gas tax
Implementation Difficulty	Requires agreement among several states on numerous items like rate, the point at which the tax/fee is applied, and the distribution of funds among states
Other Notes	Revenues may be split to support three policy areas – transportation, climate preparedness, and emissions reductions Layered on existing gas tax

MA Gas Tax Context

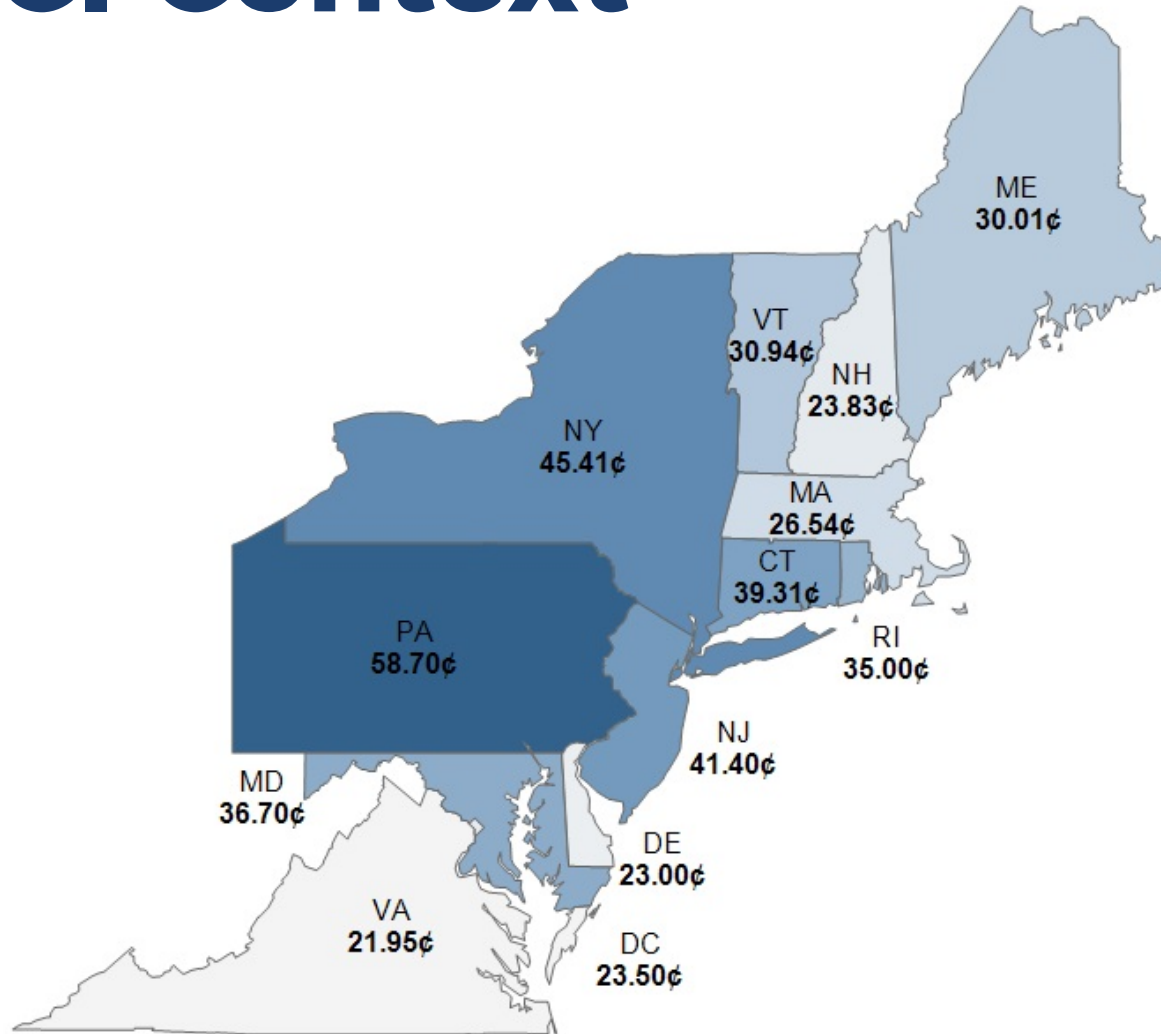
State	Gas Tax - Fuel	Gas Tax – Diesel
New Hampshire	23.83¢	23.83¢
Massachusetts	26.54¢	26.54¢
Vermont	30.94¢	32¢
Rhode Island	35¢	35¢
Connecticut	39.31¢	46.5¢
New York	45.41¢	45.05¢
Federal	18.4¢	24.4¢

The U.S. Chamber of Commerce is advocating to increase the federal gas tax by 25¢ over five years.

MA Gas Tax Context



TCI Context



The earliest implementation for TCI is 2022 and some states in the TCI consortium have gas taxes significantly higher than MA's, which may impact rate decisions. For example, Pennsylvania's gas tax is more than double the MA gas tax.

Gas Tax Increase

Increase	Revenue Gas Tax	Maximum Transportation Revenue TCI*
5¢	\$150 Million	\$75 Million
10¢	\$300 Million	\$150 Million
15¢	\$450 Million	\$225 Million
20¢	\$600 Million	\$300 Million
25¢	\$750 Million	\$375 Million

TNC (Ride Share) Fees

Challenge Addressed	Congestion; Future-Ready
Behavior Influence	Encourage shared riding among ride-share users (rather than solo rides); reduce “deadhead” driving
Estimated Revenue	Per ride fare would be based on approx. 81 million TNC rides that originated in MA in 2018
Long-Term Revenue Considerations	Ride share use is increasing so revenue may rise; depends on viability of TNC in long-term
Impact on Users	May affect users who have limited transportation alternatives
Implementation Difficulty	Requires changing current 20¢ per ride fee; collection method unchanged
Other Notes	Logan Airport implemented new TNC fees and pickup/dropoff locations

TNC Fees

Trip Type	Solo	Example	Shared	Example
Standard	Base Fee	\$1	¼ Base	25¢ per shared rider
Luxury Car Surcharge	2X base	\$2	N/A	N/A
Peak Hours 8-10am & 4-6pm	3X Base	\$3 for standard \$5 for luxury	.75X Base	75¢ per shared rider

TNC Distribution :

- 10% on trip-originating city infrastructure
- 10% to Commonwealth Transportation Fund
- 80% to public transit (MBTA & RTAs)

TNC Fees

Base Fee	Low-End Annual Revenue Estimate* (80M rides)	What it pays for
20¢ (Current)	\$16M	\$8 Million to Municipal Infrastructure \$4 Million to Taxi Industry** \$4 Million to Commonwealth Transportation Fund
\$1	\$80 M	\$8 Million to Municipal Infrastructure \$8 Million to Commonwealth Transportation Fund \$64 Million to Transit
\$1.20	\$96 M	\$9.6 Million to Municipal Infrastructure \$9.6 Million to Commonwealth Transportation Fund \$76.8 Million to Transit
\$1.70	\$136 M	\$13.6 Million to Municipal Infrastructure \$13.6 Million to Commonwealth Transportation Fund \$108.8 Million to Transit
\$2.20	\$176M	\$17.6 Million to Municipal Infrastructure \$17.6 Million to Commonwealth Transportation Fund \$140.8 Million to Transit

Bonding Capacity

New Annual Revenue	New Revenue Bond Capacity (one-time)	New GO Bond Capacity (one-time)
\$10 million	\$153.8 million	\$192.3 million
\$100 million	\$1.54 billion	\$1.92 billion
\$250 million	\$3.85 billion	\$4.81 billion
\$500 million	\$7.96 billion	\$9.62 billion
\$750 million	\$11.54 billion	\$14.42 billion
\$1 billion	\$15.38 billion	\$19.23 billion

Assumes 30-year bonds, 5% coupon AA- rating or better, and revenue bonds will have 1.25x debt service coverage requirement

Revenue Structure

Roadway Pricing	TBD based on findings of Roadway Pricing Task Force
Gas Tax	Increase 15¢ over three years; open to 2¢ diesel split
TCI	Depending of design of the program, a maximum of 10¢, not in lieu of gas tax
TNC	Increase per ride fee to between \$1.20 to \$1.70 Additional surcharge for luxury rides Additional surcharge during peak travel periods Fee would be passed along to rider
Equity	Equity, both geographic and social, comes from how revenue is spent as well as how it is raised

Link Revenue to Investments

Where the revenue is distributed

New revenue linked to specific investment allocations, such as:

- public transit expansion and modernization;
- climate adaptability;
- state highways and local roads; and
- fare balancing for MBTA.

For more information, please contact:

James E. Rooney, President & CEO

Carolyn Ryan, Senior Vice President, Policy & Research, cryan@bostonchamber.com

Ben Stuart, Senior Research & Data Analyst, bstuart@bostonchamber.com

